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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,000	06/09/2006	Xiaorong You	BHD-4676-957	6123
97561 7590 07/15/2010 Nixon & Vanderhye PC / DSM Desotech Inc. 11th Floor, 901 North Glebe Road Arlington, VA 22203				
EXAMINER				
REDDICK, MARIE L				
ART UNIT		PAPER NUMBER		
1796				
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07/15/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,000

Applicant(s)

YOU, XIAORONG

Examiner

MARIE REDDICK

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 13-18 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 13-17 and 21-26 is/are rejected.
- 7) ☒ Claim(s) 25 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. This application contains claim 18 drawn to an invention nonelected with traverse in the reply filed on 10/09/09. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

2. Claims 25 and 26 are objected to because of the following informalities: in claims 25 and 26 @ line 1, it is suggested that "component A" and "component C" be used in lieu of "element A" and "element C", respectively, so as to maintain claim language consistency. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5, 13-17 and 21-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) The recited "polyacrylates" and "ethyl acrylate-2-ethylhexyl acrylate copolymer" per claims 1, 2 and 16 constitutes indefinite subject matter as per it not being readily ascertainable as to how said components differentiate of one another.

B) The recited "acrylate having a functionality larger than 2" and "polyacrylates" per claim 16 constitutes indefinite subject matter as per it not being readily ascertainable as to how said components differentiate over one another.

C) The recited "tioxanethone and derivatives thereof" per claim 25 constitutes indefinite subject matter as per said term "tioxanethone" not being art-recognized.

5. While it is understood that applicant is entitled to be his/her own lexicographer, it is incumbent upon applicant to clearly and distinctly set forth that for which is regarded as the invention. It is applicants and not the PTO's burden to precisely define the invention, In re Morris, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 1-5, 13-17 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawton et al (US 2002/0106584).

Lawton et al teach radiation curable compositions governed by a yield stress of 28-40 N/mm² defined basically as containing i) at least one radiation curable component, ii) at least one photoinitiator, iii) sensitizers, iv) stabilizers, v) 0 to 40, preferably, 10-39 % by weight of a hydroxyl-containing material and v) other conventional additives wherein, the at least one

radiation curable component includes cationically curable compounds (30-70 % by weight of epoxy compounds which include 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexanecarboxylate) and free-radically curable compounds (5-35, preferably, 10-20 % by weight of acrylic materials, oligomers or polymers, such as poly(meth)acrylates having functionality of greater than 2 and an acrylate of bisphenol A diepoxide), the at least one photoinitiator includes a cationic photoinitiator and a free-radical initiator, the sensitizers include aromatic keto compounds, the stabilizers include polyvinylpyrrolidone and the other conventional additives include fillers, pigments, wetting agents, surfactants, dyes, photosensitizers, leveling agents (flow aids), homopolymers and copolymers of polyacrylate and polymethacrylate glycidyl esters, etc. (Abstract, paragraphs [0007]-[0018], [0030]-[0067], [0075]-[0113] and the Runs of Lawton et al and claims 1-5, 13-17 and 21-26). Lawton et al differ basically from the claimed invention as per the non-express disclosure of an embodiment directed to the specifically defined radiation curable composition comprising at least one radiation curable component, a thixotropic agent, a flow aid and a filler (claim 1) and the specifically defined compositional components, in terms of contents (claim 16). However, one having ordinary skill in the art, at the time of the invention, would have found it obvious to extrapolate, from Lawton et al, the precisely defined composition, as claimed, as per such having been within the purview of the general disclosure of Lawton et al and with a reasonable expectation of success. While Lawton et al do not recognize the "polyacrylates" as a flow aid or the "polyvinylpyrrolidone" as a thixotropic agent, a new use for an otherwise old or obvious compound/composition cannot render a claim to the composition patentable (In re Zierden, 162 USPQ 102 (CCPA 1969)).

As to the content of compositional components, one having ordinary skill in the art, at the time of the invention, would have found it obvious to modify Lawton et al by optimizing the radiation curable composition of Lawton et al, in terms of content of compositional components as suggested (paragraphs [0008]-[0018], [0108]-[0109] and the claims of Lawton et al), such involving only routine experimentation, without undue burden and with a reasonable expectation of success. **Optimization Within Prior Art Conditions or**

Through Routine Experimentation: Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

As to the “viscosity reducible” limitation, the Examiner has a reasonable basis for believing that this limitation may be met by the composition of Lawton et al since the radiation curable composition of Lawton et al, as modified, is essentially the same as the claimed viscosity reducible radiation curable composition. It is further believed that the “viscosity”, “filler settling speed”, and “thixotropic index” limitations, if not taught, may very well be met by the radiation curable composition of Lawton et al since the composition of Lawton et al, as modified, is essentially the same as the claimed composition and in the absence of the USPTO having at its disposal the tools and facilities deemed necessary to make physical determinations of this sort. **ONCE A REFERENCE TEACHING PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS MADE THE BASIS OF A REJECTION, AND THE EXAMINER PRESENTS EVIDENCE OR REASONING TENDING TO SHOW**

INHERENCY, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBVIOUS

DIFFERENCE: "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-5, 13-17 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melisar et al (US 6,099,787).

Melisaris et al teach radiation curable compositions defined basically as containing i) at least one radiation curable component, ii) a filler, iii) at least one photoinitiator, iv) a thixotropic

agent, v) a flow-control agent, and vi) other conventional additives wherein, the at least one radiation curable component includes 70-95 % by weight of cationically curable compounds (epoxy compounds such as 3, 4-epoxycyclohexanecarboxylate, epoxy resins which include homopolymers and copolymers of polyacrylate and polymethacrylate glycidyl esters and mixtures thereof) and 1-30 % by weight of free-radically curable compounds which include mono-, di- and poly(meth)acrylates having functionality up to 9, the filler, in an amount of from about 2-90 % by weight, includes untreated and treated silica compounds, the at least one photoinitiator includes a cationic photoinitiator and a free-radical initiator, the thixotropic agent includes Aerosil R-972 (fumed silica) and the other conventional additives, in an amount up to 20 % by weight, include stabilizers, pigments, wetting agents, surfactants, flow control agents, dyes, etc. (Abstract, col. 1, lines 8-18, cols. 3-7, cols. 9-19, the Runs, TABLES 1 and 2 and claims of Melisaris et al and claims 1-5, 13-17 and 21-26).

Melisaris et al differ basically from the claimed as per the non-express disclosure of an embodiment directed to the specifically defined radiation curable composition comprising at least one radiation curable component, a thixotropic agent, a flow aid and a filler (claim 1) and the specifically defined compositional components, in terms of contents (claim 16).

However, one having ordinary skill in the art, at the time of the invention, would have found it obvious to extrapolate, from Melisaris et al, the precisely defined composition, as claimed, as per such having been within the purview of the general disclosure of Melisaris et al and with a reasonable expectation of success. While Melisaris et al do not recognize the "polyacrylates" as a flow aid, a new use for an otherwise old or obvious compound/composition cannot render a claim to the composition patentable (In re Zierden, 162 USPQ 102 (CCPA 1969).

As to the content of compositional components, one having ordinary skill in the art, at the time of the invention, would have found it obvious to modify Melisaris et al by optimizing the radiation curable composition of Melisaris et al, in terms of content of compositional components as suggested (col. 9, lines 66-67, col. 10, lines 1-2, col. 11, lines 45-55, col. 12, lines 56-67 and TABLES 1 & 2 and the claims of Melisaris et al), such involving only routine experimentation, without undue burden and with a reasonable expectation of success.

Optimization Within Prior Art Conditions or Through Routine Experimentation:

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

As to the “viscosity reducible” limitation, the Examiner has a reasonable basis for believing that this limitation may be met by the composition of Melisaris et al since the radiation curable composition of Melisaris et al, as modified, is essentially the same as the claimed viscosity reducible radiation curable composition. It is further believed that the “viscosity”, “filler settling speed”, and “thixotropic index” limitations, if not taught, may very well be met by the radiation curable composition of Melisaris et al since the composition of Melisaris et al, as modified, is essentially the same as the claimed composition and in the absence of the USPTO having at its disposal the tools and facilities deemed necessary to make physical determinations of this sort. **ONCE A REFERENCE TEACHING PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS MADE THE BASIS OF A REJECTION, AND THE EXAMINER PRESENTS EVIDENCE OR REASONING TENDING TO SHOW**

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DIFFERENCE: “[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency’ under 35 U.S.C. 102, on prima facie obviousness’ under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same.” The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

12. US Patent Application Publication 2003/0194560 to Spera et al is cited as of interest to show that compounds such as polyacrylic esters, viz., MODAFLOW, silicones, and the like are conventionally well known flow aids, sometimes called leveling agents.

Response to Arguments

13. Applicant's arguments filed 04/26/10 have been fully considered but they are not persuasive.

Relative to the Rejection of Claims 1-5, 13-17 and 21-26 under 35 USC 103 (a) over Lawton et al (US 2002/0106584).....It is urged that the instantly claimed invention is obvious within the meaning of 35 USC 103 (a) over Lawton et al as per reasons clearly stated in the Grounds of Rejection supra. The crux of Counsel's arguments appear to hinge on the instantly claimed invention being a paste-like composition wherein Lawton is concerned with a low viscosity liquid radiation curable composition. To this end, Counsel is arguing criticality for something not even in the claims. As it is recognized by the courts, “Many of appellant's arguments fail from the outset because, as the solicitor has pointed out, they are not based on limitations appearing in the claims (In re Self, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982).

As to the silence of the polyacrylate compounds of Lawton et al as a flow aid, a new use for an otherwise old compound/composition does not engender patentable subject matter. With all due respect to Counsel's opinion, "flow aids" are also known as "leveling agents" as substantiated by the prior art to Spera et al (US 2003/0194560) cited on the attached FORM PTOL 892.

Relative to the Rejection of Claims 1-5, 13-17 and 21-26 under 35 USC 103 (a) over Melisaris et al (US 6,099,787).....It is urged that the instantly claimed invention is obvious within the meaning of 35 USC 103 (a) over Melisaris et al as per reasons clearly stated in the Grounds of Rejection supra. The crux of Counsel's arguments appears to hinge on Melisaris et al is directed to an entirely different problem than applicant's invention. To this end, "Even if Appellants' purpose for using the claimed surfactant is different from that of the prior art, this does not defeat the Examiner's prima facie case of obviousness because any need or problem known in the field of endeavor at the time of the invention and addressed by the prior art can provide a reason for combining the elements in the manner claimed". KSR, 127 S. Ct. at 1742. See also In re Kemps, 97 F.3d 1427, 1430 [40 USPQ2d 1309] (Fed. Cir. 1996) and In re Dillon, 919 F.2d 688, 693 [16 USPQ2d 1897] (Fed. Cir. 1990) (en banc) (the motivation to combine the prior art references need not be identical to that of Applicants).

As to a combination of a flow aid + thixotropic agent, use of the polyacrylate compound(s) in combination with the thixotropic agent Aerosil R-972 (fumed silica) would have been obvious to one having ordinary skill in the art, at the time of the invention, as per such having been within the purview of the general disclosure of Melisaris et al and with a reasonable expectation of success. Criticality for such, commensurate in scope with the claims, not having been demonstrated on this record. Counsel is reminded that a reference is

evaluated, as a whole, for what it fairly teaches and not limited to just bits and pieces. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).

14. Applicant's arguments, see page 11, filed 04/26/10, with respect to the rejection(s) of claim(s) 7, 8, 11, 12, 14-17 and 20-24 under 35 USC 112, 2nd paragraph have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration coupled with the Claim Amendments, new 112, 2nd paragraph issues were created and are as set forth supra.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to

37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIE REDDICK whose telephone number is 2-5816. The examiner can normally be reached on Mon. - Fri. from 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID WU can be reached on 2-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marie Reddick
Patent Examiner
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/MR/
07/13/10

/David Wu/
Supervisory Patent Examiner, Art Unit 1796

